

WHAT IS CLAIMED IS:

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- 5 1. A connector for attaching an energy delivery device to an energy generator by rotation of said connector about a longitudinal axis, said connector comprising:
- 5 a handle portion;
- an energy transfer attachment for transferring energy from said energy generator to said energy delivery device, said energy transfer attachment extending from said handle portion;
- 10 a contact pad plane defined on said connector, said contact pad plane parallel to said longitudinal axis; and
- at least one contact pad having a contact surface, said contact surface located on said contact pad plane, wherein a line through said contact surface and perpendicular to said contact pad plane is skew to said longitudinal axis.
- 15 2. The connector of Claim 1 wherein said connector further comprises a barrel longitudinally extending from said handle, and said contact pad is located within a flange radially extending from said barrel.
- 20 3. The connector of Claim 2 wherein said at least one contact pad is accessible through at least one access opening located on said flange.
4. The connector of Claim 3 further comprising a memory device attached to said connector, said memory device in electrical communication with said contact pad.
- 25 5. The connector of Claim 4 wherein said contact pad and said memory device are located on a printed circuit board insert molded within said flange.

6. A connector for attaching an energy delivery device to an energy generator by rotation of said connector about a longitudinal axis, said connector comprising:

a handle portion;

a barrel extending longitudinally from said handle portion;

5 an energy transfer attachment for transferring energy from said energy generator to said energy delivery device, said energy transfer attachment located on said barrel;

a flange radially extending from said barrel; and

at least one contact pad located on said flange.

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7. The connector of Claim 6 wherein said at least one contact pad is accessible through an access opening located on said flange.

8. The connector of Claim 7 further comprising a memory device attached to said
15 connector, said memory device in electrical communication with said contact pad.

9. The connector of Claim 8 wherein said contact pad and said memory device are located on a printed circuit board insert molded within said flange.

20 10. A system for transferring energy to tissue, said system comprising:

an energy generator including a connector housing;

at least one conductive contact affixed to said connector housing;

an energy delivery device having a connection end;

a connector mounted on said energy delivery device at said connection end,

25 said connector having a longitudinal axis, and said connector removably attachable to said housing and rotatable about said longitudinal axis relative to said housing between an unlocked position and a locked position;

a flange radially extending from said connector; and

30 at least one contact pad located on said flange, said contact pad having a contact surface, wherein rotation of said connector about said longitudinal axis from said unlocked position to said locked position engages said contact pad to said conductive contact in a direction substantially perpendicular to said contact surface.

11. The system of Claim 10 wherein said contact pad is located on a printed circuit board, said printed circuit board is insert molded within said flange, and said flange contains at least one pad access opening adjacent said contact pad.

5 12. The system of Claim 10 wherein said system further comprises a wall affixed to said connector housing and wherein in said unlocked position said flange clears said wall to allow removal of said connector from said housing and in said locked position said flange is obstructed by said wall to prevent removal of said connector from said housing.

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13. The system of Claim 12 further comprising a detent mounted on said housing, said detent engaging said connector when said connector is connected to said housing.

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14. The system of Claim 13 further comprising:

an anti-torque feature mounted on said connector; and

a receiving feature mounted on said housing, said receiving feature mating with said anti-torque feature upon assembly of said connector with said housing.

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15. The system of Claim 10 further comprising:

a computer positioned within said energy generator, said computer in electrical communication with said conductive contact; and

a memory device positioned on said connector, said memory device in electrical communication with said contact pad, wherein said engagement of said contact pad to said conductive contact places said memory device in electrical communication with said computer.

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16. A system for treatment of tissue using light energy, said system comprising:

a laser having an associated computer and a connector housing;

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at least one conductive contact within said connector housing;

an optical fiber assembly having a connection end;

a connector located at said connection end, said connector rotatably attachable to said connector housing, and said connector capable of transferring light energy from said laser to said optical fiber assembly;

a flange extending from said connector; and

5 at least one contact pad, said contact pad having a contact surface and said contact pad located within said flange wherein rotation of said connector engages said contact pad with said conductive contact in a direction substantially perpendicular to said contact surface.

10 17. The system of Claim 16 wherein said connector further comprises an attached memory device, said memory device in electrical communication with said contact pad.

15 18. The system of Claim 17 wherein said memory device and said contact pad are located on a printed circuit board insert-molded within said flange.

20 19. The system of Claim 18 wherein said system further comprises a wall affixed to said connector housing and wherein said wall obstructs said flange to prevent removal of said connector from said connector housing when said contact pad is engaged to said conductive contact.

20. The system of Claim 19 wherein said conductive contact comprises a spring-loaded pin.

25 21. The system of Claim 20 wherein engaging said contact pad to said spring-loaded pin electrically connects said memory device to said computer for the exchange of information.

22. A method of treating tissue with light energy, said method comprising:

providing a laser having an associated computer

providing a connector housing, said connector housing having at least one conductive contact and said connector housing attached to said laser;

5 providing an optical fiber assembly, said optical fiber assembly having a connector attached at one end and said connector having at least one contact pad located thereon, said contact pad having a contact surface;

providing a memory device located on said optical fiber assembly;

inserting said connector into said housing;

10 rotating said connector within said housing to engage said contact pad with said conductive contact in a direction substantially perpendicular to the contact surface;

exchanging information between said memory device and said computer;

transferring light energy through said connector to said optical fiber

15 assembly; and

treating tissue with said light energy.

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